

U.S. Patent Application Serial No. 10/583,008

Reply to OA dated September 17, 2009

### REMARKS

Applicants have amended the claims to remove the rejection based on 35 U.S.C. §112, second paragraph, and to clarify the present invention.

Independent Claim 1, as amended, is to a method of forming an activated lime for the removal of acid gases from a combustion gas stream consisting of thermally decomposing calcium hydroxide to produce calcium oxide by contacting the calcium hydroxide with a gaseous stream having a temperature of between 750-950°F for a sufficient time to produce a calcium oxide having a specific surface area of between about 30-48 square meters per gram, and collecting the calcium oxide so produced for use in contact with a combustion gas stream to remove acid gases therefrom; while independent Claim 6 is similar but requires that the gaseous stream is hot air.

In the Office Action, Claims 1-8 were rejected under 35 U.S.C. 103(a) as obvious in view of Japanese Application 7-149580. Reconsideration and removal of this rejection are respectfully requested in view of the present claim amendments and the following remarks.

The Office Action asserts that JP '580 suggests the instantly claimed process of making activated lime (calcium oxide) by heating calcium hydroxide at 390-480 degrees C under normal pressure, i.e., in air. It is alleged that the use of a gaseous stream would have been obvious to one skilled in the art in order to promote the action of the hot air to contact more of the surface of the calcium hydroxide. It is further alleged that the JP '580 process is the same as that instantly claimed and would thus provide the instantly claimed surface area.

The Office Action further alleges that it would have been obvious to have selected the

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The Office Action further alleges that it would have been obvious to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be *prima facie* case of obviousness.

In the JP '580 reference, there is no teaching of thermally decomposing calcium hydroxide to produce calcium oxide by contact with a gaseous stream, such as a combustion gas or air, having a temperature of between 750-950 degrees C for a period of time sufficient to produce a calcium oxide having a specific surface area of between about 30-48 square meters per gram.

The JP '580 treats calcium hydroxide or calcium carbonate in a manner that produces a calcium oxide porous material with a particle diameter of  $\geq 1$  mm and a specific surface area  $\geq 5\text{m}^2/\text{g}$ . Such a general teaching does not lead one to the limited range of specific surface area of the present claims, 30-48 square meters per gram with the use of a stream of combustion gas or air, so as to produce the highly active calcium oxide for removal of acid gases from a combustion gas stream.

Such a general teaching of the JP '580 reference does not lead to the specifically claimed process and "consisting of" has been used to further specify the method of the present claims.

In view of the aforementioned amendments and accompanying remarks, Claims 1-8, as amended, are believed to be patentable and in condition for allowance, which action, at an early date, is requested.

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In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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